IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF TEXAS
WACO DIVISION

FORUM US, INC. Plaintiff,	§ § §	
v.	§	Case No. 6:20-CV-00150-ADA
ODESSA SEPARATOR, INC. Defendant.	§ §	

DEFENDANT'S OPENING CLAIM CONSTRUCTION BRIEF

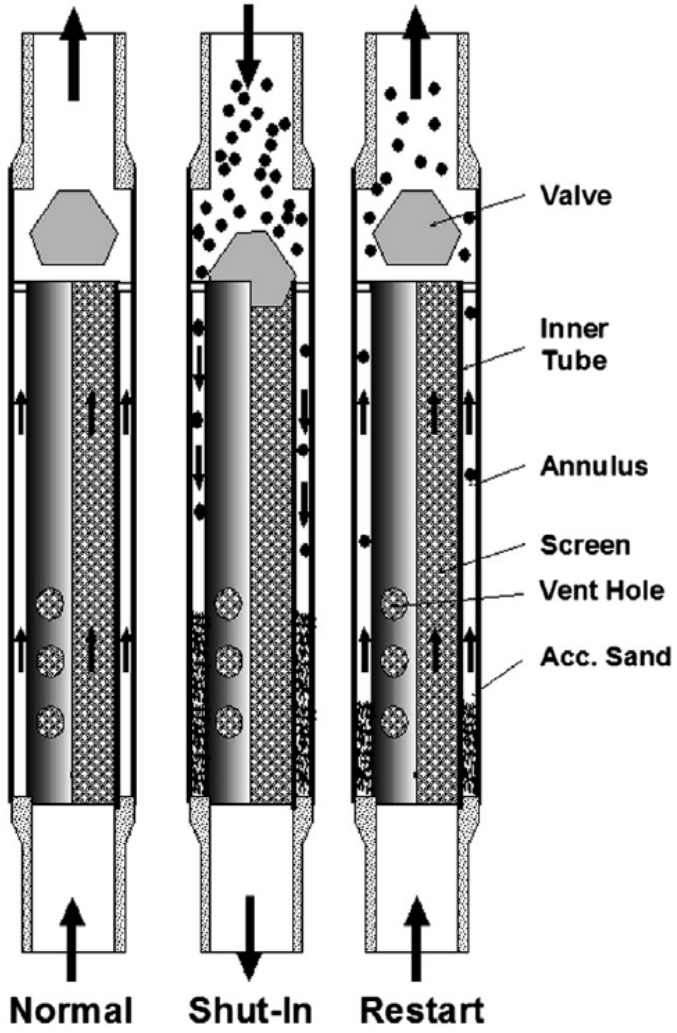
Defendant Odessa Separator, Inc. ("Defendant") respectfully requests that the Court take this opportunity to construe certain claim terms of the patents Defendant is accused of infringing in order to avoid jury confusion and to prevent Plaintiff Forum US, Inc. ("Plaintiff") from stretching the claims beyond the patented invention.

INTRODUCTION

Plaintiff asserts that Defendant infringes **79 claims** from U.S. Patent Nos. 9,441,435 ("the '435 patent"), 10,132,151 ("the '151 patent"), 10,132,152 ("the '152 patent"), 10,584,571 ("the '571 patent") (the "Asserted Patents"). Despite the plethora of claims being asserted, the inventive concept underlying all of these claims is the same: an outer tube and an inner tube having a flow diverter at one end to allow fluid to flow upward through the inner tube, but divert downward flow away from the inner tube and towards a second flow path. Defendant's product does not have a flow diverter and has only a single flow path. As the Court has recommended [*see* Dkt. 14] and to avoid wasting the Court's time, Defendant has foregone the usual lengthy recitations of the underlying legal authorities and instead focused on the substantive issues unique to this case, namely, the flow paths and the flow diverter. This brief first provides an overview of the claimed

technology and then explains why clarification of certain terms beyond "plain and ordinary meaning" is required.

TECHNOLOGY OVERVIEW



The Asserted Patents are directed to a solution for the oil and gas industry that addresses the problem of sand settling on top of a downhole pump when the pump is shut down. According to the Electrical Submersible Pumps Manual (submitted herewith as Exhibit 1), the patented solution involves installing a tubular device (shown in the figure on the left at three different stages) above the downhole pump (not shown) so that fluid can be pumped upwards through the device during Normal operation. As can be seen, when the pump is running, the fluid is able to flow upwards via two flow paths, a first path through a region inside of a filter and a second path through a region outside the filter. When the pump is shut down (middle figure), a flow diverter at the top of the inner tube closes the first path so that downward flow only travels through the second path. When the pump is restarted (right figure), fluid again flows upward in the first flow path and some of the fluid passes through the filter to the second flow path to clean

the accumulated sand. As explained below, this description of the patented device in the Electrical Submersible Pumps Manual is consistent with the invention disclosed in the '435 Patent.

FIRST FLOW REGION AND SECOND FLOW REGION

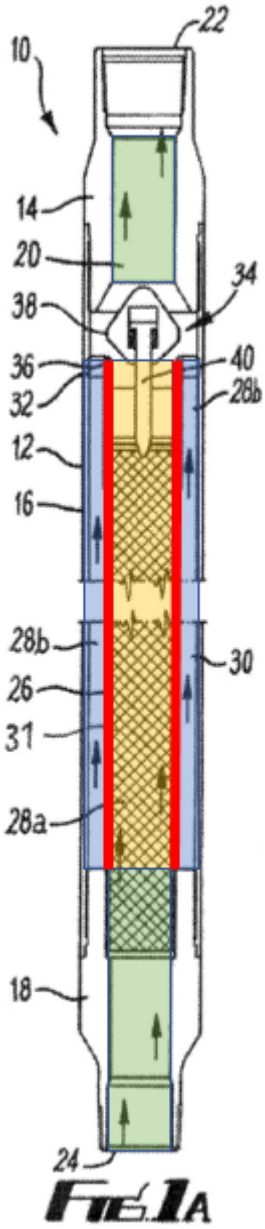


FIG. 1A

According to the specification, "[t]he inner tubular 26 divides the throughbore 20 into a **first flow region** 28a on the inside of the tubular and a **second flow region** 28b in an annular space 30 between the inner wall of the housing 16 and the inner tubular 26." '435 Patent, 6:6-9. In the figure on the left (FIG. 1A from the '435 Patent), red lines have been added to indicate the inner tubular that divides the throughbore 20 (shown in green) into a first flow region (shown in yellow) and a second flow region (shown in blue). Other than disagreeing as to whether the terms "first flow region" and "second flow region" should be construed or simply given their plain and ordinary meaning, Defendant doesn't believe the parties are in disagreement as to what these two terms mean. Defendant believes it necessary to construe "**first flow region**" as "the area inside of the [inner] tubular" and "**second flow region**" as "the annular space between the inner wall of the outer tubular and the inner tubular" because they form the basis for Defendant's proposed construction of "first flow path" and "second flow path." In addition, Defendant believes the phrase an "**inner tubular wall separating the first flow region from the second flow region**" should be construed to clarify that "wall" is referring to a "solid surface of the inner tubular separating the first flow region from the second flow region" in order to distinguish from the two regions being separated by a screen only.

FIRST FLOW PATH AND SECOND FLOW PATH

Building on what the specification defines as the first flow region and the second flow region, Defendant proposes that "**a first flow path**" be defined as "a flow path through the body that passes through the first flow region, but does not pass through the second flow region;" and that "**a second flow path**" be defined as "a flow path that passes through the second flow region." As shown in FIG. 1A to the left (from the '435 Patent), upward fluid flow from the lower opening 24 (path shown in green) passes through the first flow region (shown in yellow) and exits the upper opening 22 (shown in green). As the fluid flows through the first flow region, some of that fluid passes through the inner tubular (shown in red) and into the second flow region (shown in blue). Once the fluid from the first flow region enters the second flow region, it is in the second flow path and no longer in the first flow path. Thus, the need to clarify that the first flow path does not pass into the second flow region.

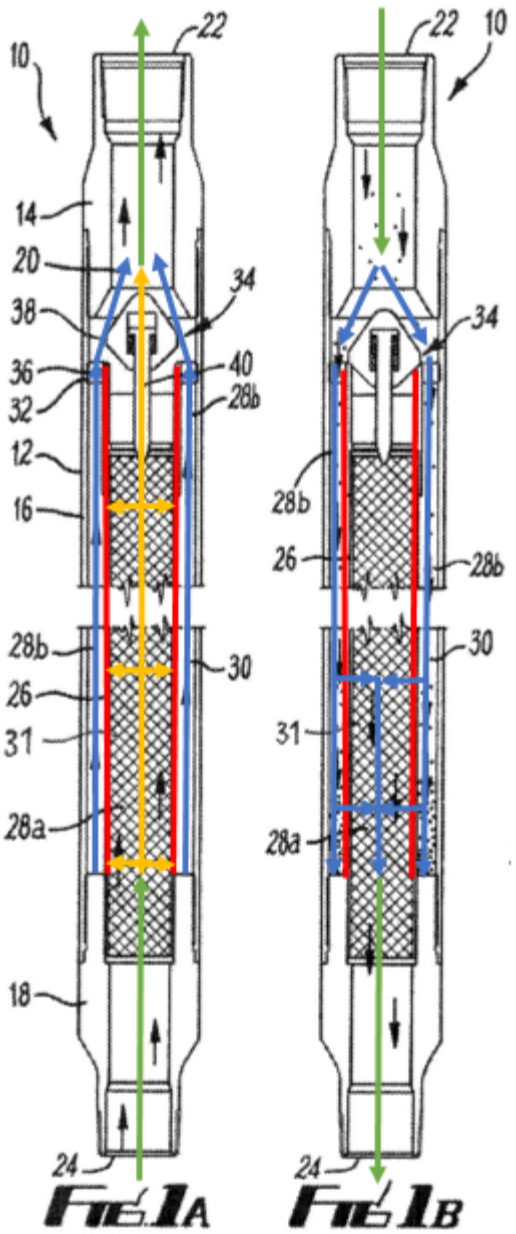


FIG. 1A FIG. 1B

As shown in FIG. 1B to the left (from the '435 Patent), when the pump is shut down, fluid flow from the upper opening 22 (shown in green) is diverted away from the first flow region and towards the second flow region (shown in blue).

As the fluid flows through the second flow region, some of the fluid passes through the inner tubular (shown in red) and into the first flow region (shown in blue), eventually exiting the lower opening (shown in green). Thus, unlike the first flow path, the only requirement for the second flow path is that it must pass through the second flow region.

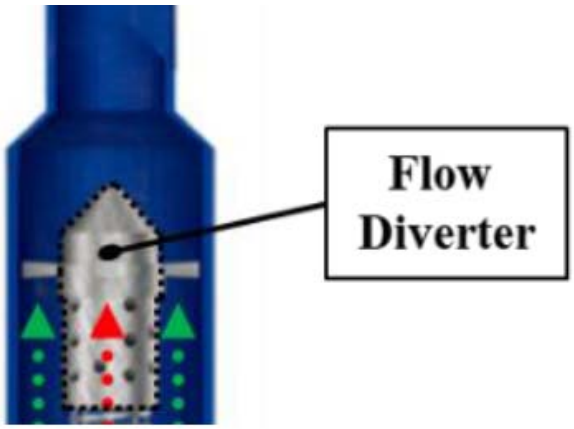
So why do the phrases "first flow path" and "second flow path" require construction? Put simply, it's confusing. It would be simple if we were allowed to look at the term "flow path" in a vacuum. But it is exponentially harder to understand and follow the two flow paths during each of the stages of operation (Normal, Shut-In, Restart), especially when those flow paths interact with each other differently depending on the stage (*e.g.*, upward flow in the first flow path causes fluid flow in the second flow region, whereas downward flow in the second flow path eventually passes through the first flow region).

The last dispute between the parties related to flow paths is whether the phrase "**flow path between the upper opening and the lower opening**" requires that the flow bath connect the first opening to the second opening or whether the flow path can stop somewhere in the middle. A flow path *between* two openings seems plain—a route extending from one opening to the other. Indeed, this interpretation is consistent with how the phrase is used in the specification. *See e.g.*, '435 Patent at 5:57-58 ("The body 12 defines a throughbore 20 between an upper opening 22 and a lower opening 24." (emphasis added)). The specification is also clear that the first flow path extends all the way through the apparatus. *See* 4:64-65 ("operating the downhole pump to cause fluid to flow in a first flow path upward through the body." (emphasis added)). Regarding the second flow path, the specification states that "there is no direct flow path from the lower opening 24 to the second flow region which does not pass through the first flow region." 6:37-38 (emphasis added). This, however, is consistent with Defendant's position that a flow region is not the same

as a flow path and that the downward flow is directed away from the first flow path, but can still flow out the bottom of the apparatus. Thus, Defendant's believe the proper construction of "**a first flow path between the upper opening and the lower opening in the body**" should be "a first route through the body connecting the upper opening and the lower opening" and "**a second flow path between the upper opening and the lower opening in the body**" should be "a second route through the body connecting the upper opening and the lower opening."

FLOW DIVERTER AND RELATED CLAIM TERMS

With that background, we can now turn to the most hotly contested claim term: **flow diverter**. Plaintiff wants to assign this term its plain and ordinary meaning, so why should the Court construe this term? Because Plaintiff asserts that the ordinary meaning of this claim term includes undisclosed and non-enabled devices, including a stationary upside-down cone:



Preliminary Infringement Chart for U.S. Patent 9,441,435, Exhibit A.

Such an interpretation is inconsistent with what Judge Rosenthal stated in a previous litigation brought by the previous owner of the '435 Patent in the context of ruling that a flow diverter was not a means-plus-function limitation. *See Multilift Wellbore Tech., Ltd. et al. v. ESP Completion Techs., LLC et al.*, Case 4:17-cv-02611, Dkt. 127 (S.D. Tex. Feb. 16, 2018). Specifically, Judge Rosenthal stated that a "small piece of angle iron would barely affect the flow,

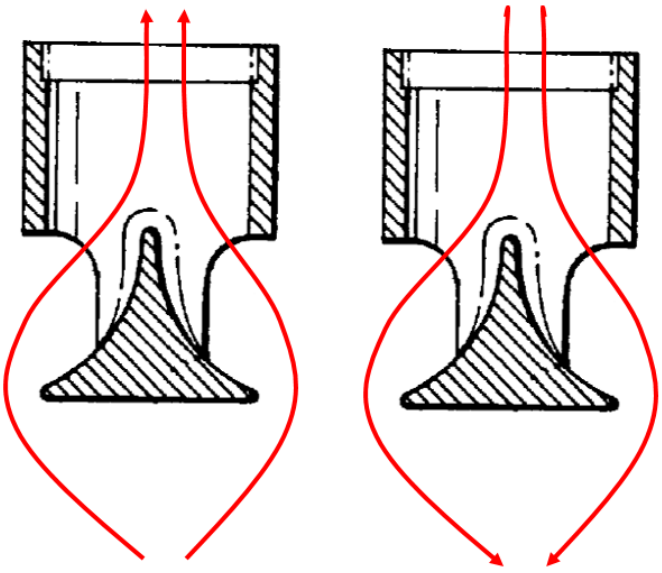
not even close to the extent necessary to direct it away from the first flow path." *Id.* at 28. As Judge Rosenthal stated, "the specification provisions support [patentee's] argument that the diverter is a mechanical diverter that includes valves and similar mechanical devices." *Id.* at 29. It is Defendant's position that mechanical devices similar to valves do not include a stationary Y-joint.

The extrinsic evidence the patentee cited to support the argument that a flow diverter means "valves and things like that" makes it clear that a flow diverter is not a stationary Y-joint or split pipe. *See e.g., Multilift Wellbore Tech.*, Case 4:17-cv-02611, Dkt. 109-9 (S.D. Tex. Nov. 28, 2017) (Oil & Gas Drilling Lexicon, "There are two types of flow diverter. 1. Passive—creates a friction fit seal between the rubber element and the drill. Tension in the rubber element and well pressure maintains the seal. 2. Active. Active diversion relies on external hydraulic pressure to create a seal between the element and the drill string. …") (submitted herewith as Exhibit 2); *see also id.* at Dkt. 109-8 (A Dictionary for the Oil and Gas Industry defining "diverter" as "an assembly of devices used to direct fluids flowing from a wall away from the drill string…*When activated*, it allows well fluid to flow through a side outlet to a line (pipe) that carries the well fluids a safe distance away from the rig." (emphasis added)) (submitted herewith as Exhibit 3).

According to arguments made by patentee in that case, "the diverter, either has to lift to allow some fluid flow or there has to be holes there to allow some fluid flow so the pump won't burn out whilst it's trying to move the fluid and the sand is trapped, quarantined." *Multilift Wellbore Tech.*, Case 4:17-cv-02611, Dkt. 110 at p. 45, ll. 3-7 (S.D. Tex. Nov. 30, 2017) (submitted herewith as Exhibit 4). As is clear from that statement, a stationary Y-joint (or an inverted cone or a piece of angle iron) is not sufficient to enable the invention. Not only does the specification fail to disclose a "Y-type" diverter (or any other stationary diverter), the specification

doesn't even hint at how such a device would be implemented. Furthermore, nowhere in the specification does it disclose "holes there to allow some fluid flow so the pump won't burn out." Rather, the specification discloses that the solids "do not generate any significant back pressure on the flow path through the apparatus: the back pressure of the apparatus and valve is known, and can be exceeded within the normal operating parameters of the downhole pump." '435 Patent at 7:8-12. As can be seen by Plaintiff's assertion, merely stating that the "flow diverter" should be given its "plain and ordinary meaning" is inadequate because it fails to resolve the parties' dispute.

Defendant intends to have its technical expert provide testimony at the Markman Hearing to explain that, in light of the specification and claim language, one of ordinary skill in the art would not understand the claimed "flow diverter" to include a stationary Y-joint and that such an interpretation would be wholly inconsistent with how the term is used. First, the only flow diverter contemplated by the specification is a flow diverter that changes position (*i.e.*, to open and close access to the inner tube). Second, as shown below, with a stationary flow diverter, the flow path would be the same in the upwards direction as it is in the downwards direction:



This is contrary to the disclosure of the patent and the claims, which require both a first flow path and a second flow path. In the context of the embodiments disclosed in the specification, if the flow diverter were stationary (*i.e.*, a Y-joint), there would be no first flow path through the body because all of the fluid would be forced into the second flow region and, thus, as shown in the figures on the left (FIG. 1B of the '435 Patent, modified to represent a diverter that is stationary both when the pump is running and when it is shut down), the flow path the fluid takes while the pump is running would be identical to the flow path the fluid takes when it is not, something that is not disclosed in the '435 Patent.

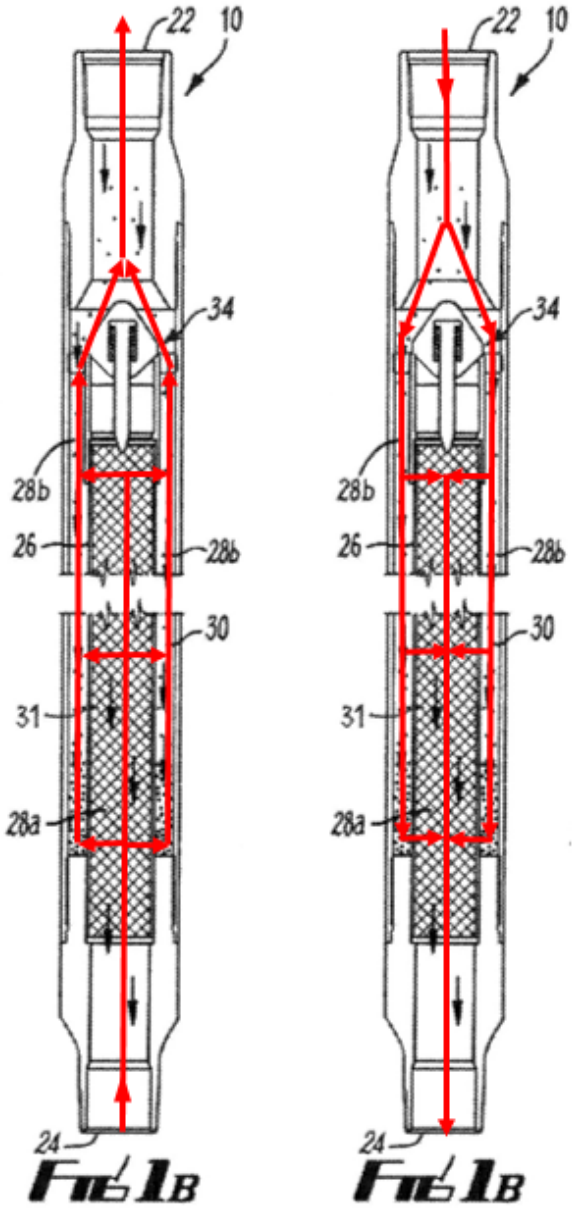


FIG 1B FIG 1B

Furthermore, the only flow diverter disclosed in the '435 Patent is a valve-type diverter. In the Summary of the Invention, the patent states that "[p]referably, the flow diverter comprises a valve." '435 Patent at 3:6. However, nowhere does it state that it could be anything else or even suggest what else it could be. The Detailed Description of Preferred Embodiments doesn't disclose anything other than a valve-type diverter and doesn't describe how a non-valve-type diverter would even operate. Contrary to patentee's assertion that all that is needed is some holes, nothing in the specification contemplates

this. On the contrary, the specification states that solids should be prevented from passing between the first and second flow regions. '435 Patent, 6:12-15. Thus, any flow diverter other than a valve-type diverter or other mechanical device that changes position is not enabled and any construction that encompasses a stationary Y-joint is overly broad.

In sum, one of ordinary skill in the art would understand that the claimed "**flow diverter**" means "a valve or other mechanical device at the top of the first flow region that changes position to modify the flow paths through the body."

MISCELLANEOUS CLAIM TERMS LACKING SUPPORT

"the filter comprises one or more vents"	holes in a tubular wall having a wire mesh or screen over the holes on an outer surface of the wall. Alternatively, indefinite and/or lack of written description
"the first passageway positioned adjacent a first end of the wall and the second passageway positioned adjacent an end opposite of the first end"	a first vent in the wall at an end of the wall and a second vent at an opposite end of the same wall. In the alternative, indefinite and/or lack of written description
"at least one further vent in an upper half of the inner tubular"	indefinite and/or lack of written description
"if fluid cannot flow"	indefinite and/or lack of written description
"relieve back pressure"	indefinite and/or lack of written description

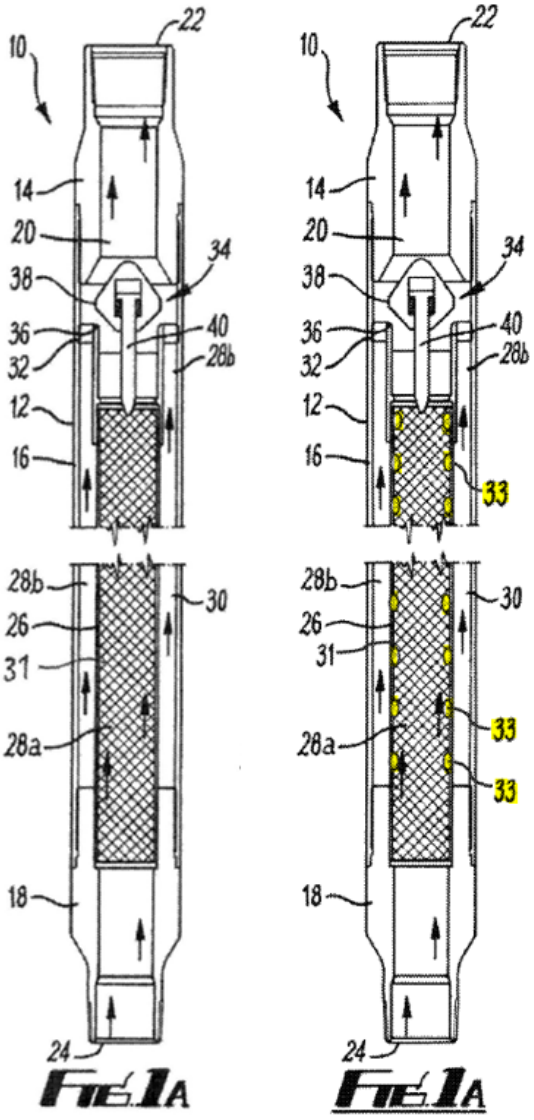
IF FLUID CANNOT FLOW and RELIEVE BACK PRESSURE

Defendants believe these two claim terms are indefinite because they are wholly inconsistent with the disclosure of the specification and, thus, there meaning is unclear. The specification does not disclose any situation where fluid cannot flow. Regarding "back pressure," the specification states that "The accumulated solid particles do not generate any significant back pressure on the flow path through the apparatus: the back pressure of the apparatus and valve is known, and can be exceeded within the normal operating parameters of the downhole pump."

"The downhole apparatus filters the solids in a way which does not provide a significant backpressure or resistance to subsequent operation of the pump." 7:27-29.

Claim Terms Lacking Description

Nothing in the specification describes that "the filter comprises one or more vents." The specification describes a wall having holes and a mesh over those holes, but it does not describe an embodiment where there are vents in the filter, thus, it is unclear is being claimed. Nothing in the specification describes that "the first passageway positioned adjacent a first end of the wall and the second passageway positioned adjacent an end opposite of the first end." Furthermore, nothing describes that "at least one further vent in an upper half of the inner tubular."



Patentee added new matter during prosecution. For example, as the comparison between FIG. 1A of the '435 Patent and FIG. 1A of the '151 Patent shows, the applicant added vents (shown in yellow) where none were shown in the original application. Plaintiff's attempt to assert claims that contain newly added subject matter should not be allowed.

Dated: August 28, 2020

Respectfully submitted,

/s/ Jeffrey A. Tinker

ATTORNEYS FOR DEFENDANT

CERTIFICATE OF SERVICE

I hereby certify that on August 28, 2020, I electronically served the foregoing document via email to all counsel of record.

/s/ Jeffrey A. Tinker
Jeffrey A. Tinker